635 Angeles

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
Division of Forest Insect Investigations

# ANNUAL REPORT OF FOREST INSECT CONTROL IN THE CRYSTAL LAKE INFESTATION AREA ANGELES NATIONAL FOREST

FISCAL YEAR 1953

The Crystal Lake infestation area is located in the San Gabriel Mountains, northeast of Glendora, on the Mt. Baldy District, Angeles National Forest. The infestation lies within sections 20, 21, 28, 29, and 30 of T.3N, R.9W San Bernardino meridian.

This is an intensively used recreational area which lies at the bottom of a basin surrounded on the west, north and east by high, steep mountains. The entire basin area of approximately 500 acres is broken up into many campground and picnic sites, and contains trails, roads, and a small lake with a beach and a concession.

The entire area is government-owned and is therefore administered by the U. S. Forest Service.

## Insect and Host Species

The basin area is made up of ponderosa pine, Jeffrey pine, white fir and some pinon pine and bigcone spruce. At the upper limits of the steep slope above the basin, Jeffrey pine and white fir become the dominant species, with some sugar pine, incense cedar and bigcone spruce intermixed. On the west slope a band of ponderosa pine extends to the top of the ridge and down the other side for a short distance.

The principal tree-killing insect species encountered within the area are as follows:

Jeffrey pine - California flatheaded borer, Melanophila californica Van Dyke, and one record this past year of the Jeffrey pine beetle, Dendroctonus jeffreyi Hopk.

Ponderosa pine - the western pine beetle, Dendroctonus brevicomis Lec., the mountain pine beetle, Dendroctonus monticolae Hopk., and the California flatheaded borer, Melanophila californica Van Dyke.

White fir - the fir engraver beetle, Scolytus ventralis Lec.

Sugar pine - the mountain pine beetle, Dendroctonus monticolae Hopk.

## The Infestation

Epidemic losses have been occurring for several years now in the ponderosa pine, Jeffrey pine, and the white fir, primarily as the result of the western pine beetle, California flatheaded borer and fir engraver beetle respectively. For the past several seasons control operations have been under way against the western pine beetle but almost entirely on a winter project basis. No control has been attempted on either the California flatheaded borer or the fir engraver beetle. A new look at possible control of these species is needed.

## The Control Operation

On January 2, 1953, control work was started against the western pine beetle in ponderosa pine. Leslie W. Cammack was in charge of the operation, assisted by an average of four men. Actually twelve persons were connected with the project at different times. Work continued intermittently until the end of the fiscal year and summer maintenance control has been in progress since July 1. Weather conditions and the timing of spotting, due to new fades, necessitated intermittent rather than continuous work. Treating of the trees was by both of the methods now commonly employed in southern California on projects of this type: (1) fell-peel-burn or fell-pile-burn, and (2) spray trees with a toxic oil spray after falling and bucking. Trees were sprayed on all sides with a spray containing 1 part orthodichlorobenzene and 6 parts of diesel fuel.

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|---|---|---|
| Total number of trees spotted | | 55 |
| Total number of trees treated | | 55 |
| Sprayed | 47 | |
| Burned | 8 | |
| Average D.b.h. | | 28.4 inches |
| Man days | | 117 |
| Trees per man day | | 0.47 |
| Approx. gals. of ortho used | | 85 |
| Approx. gals. of diesel fuel used | | 550 |
| Average no. of gals. of spray per tree | | 11.55 |

Technical assistance was furnished by the Forest Insect Laboratory, Berkeley, California.

## Costs

The total expenditure for the project was $1,993.39, making an average cost per tree of $36.24. This is a higher cost per tree than most of the other Southern California projects, probably because larger trees were involved.

Recommendations

1. That the concept of winter control be abandoned and a policy of year-round insect control be followed.

2. That control of the California flatheaded borer in Jeffrey pine and ponderosa pine be started as soon as definite control measures are set down by the Forest Insect Laboratory.

3. That control of the fir engraver beetle not be attempted until the results of experimental control in other areas are determined.

Forest Insect Laboratory
Berkeley, California
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G. L. Downing
Entomologist